



## SEQUENCE LISTING

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<120> GLUT-1 AS A RECEPTOR FOR HTLV ENVELOPES AND ITS USES

<130> 0508-1149

<140> 10/555,289  
<141> 2005-11-02

<150> PCT/EP2004/004624  
<151> 2004-04-30

<150> EP 03291067.1  
<151> 2003-05-02

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<170> PatentIn Ver. 3.3

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Ile Asn Ala Pro Gln Lys Val Ile Glu Glu Phe Tyr Asn Gln Thr Trp  
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gtc cac cgc tat ggg gag agc atc ctg ccc acc acg ctc acc acg ctc 192  
Val His Arg Tyr Gly Glu Ser Ile Leu Pro Thr Thr Leu Thr Thr Leu  
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Trp Ser Leu Ser Val Ala Ile Phe Ser Val Gly Gly Met Ile Gly Ser  
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ctg atg atg aac ctg ctg gcc ttc gtg tcc gcc gtg ctc atg ggc ttc Leu Met Met Asn Leu Leu Ala Phe Val Ser Ala Val Leu Met Gly Phe	336
100 105 110	
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115 120 125	
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245 250 255	
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260 265 270	
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275 280 285	
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Gln Pro Val Tyr Ala Thr Ile Gly Ser Gly Ile Val Asn Thr Ala Phe	
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Thr Val Val Ser Leu Phe Val Val Glu Arg Ala Gly Arg Arg Thr Leu	
325 330 335	
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His Leu Ile Gly Leu Ala Gly Met Ala Gly Cys Ala Ile Leu Met Thr	
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Pro Ile Pro Trp Phe Ile Val Ala Glu Leu Phe Ser Gln Gly Pro Arg	
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Val Phe Ile Ile Phe Thr Val Leu Leu Val Leu Phe Phe Ile Phe Thr	
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tac ttc aaa gtt cct gag act aaa ggc cg <sup>g</sup> acc ttc gat gag atc gct	1392
Tyr Phe Lys Val Pro Glu Thr Lys Gly Arg Thr Phe Asp Glu Ile Ala	
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Trp Ser Leu Ser Val Ala Ile Phe Ser Val Gly Gly Met Ile Gly Ser  
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Phe Ser Val Gly Leu Phe Val Asn Arg Phe Gly Arg Arg Asn Ser Met  
                  85                 90                 95

Leu Met Met Asn Leu Leu Ala Phe Val Ser Ala Val Leu Met Gly Phe  
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Ser Lys Leu Gly Lys Ser Phe Glu Met Leu Ile Leu Gly Arg Phe Ile  
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Ile Gly Val Tyr Cys Gly Leu Thr Thr Gly Phe Val Pro Met Tyr Val  
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Gly Glu Val Ser Pro Thr Ala Phe Arg Gly Ala Leu Gly Thr Leu His  
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Gln Leu Gly Ile Val Val Gly Ile Leu Ile Ala Gln Val Phe Gly Leu  
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Asp Ser Ile Met Gly Asn Lys Asp Leu Trp Pro Leu Leu Leu Ser Ile  
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Glu Ser Pro Arg Phe Leu Leu Ile Asn Arg Asn Glu Glu Asn Arg Ala  
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Leu Gln Glu Met Lys Glu Glu Ser Arg Gln Met Met Arg Glu Lys Lys  
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Val Thr Ile Leu Glu Leu Phe Arg Ser Pro Ala Tyr Arg Gln Pro Ile  
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Leu Ile Ala Val Val Leu Gln Leu Ser Gln Gln Leu Ser Gly Ile Asn  
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His Leu Ile Gly Leu Ala Gly Met Ala Gly Cys Ala Ile Leu Met Thr  
 340 345 350

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Ile Val Ala Ile Phe Gly Phe Val Ala Phe Phe Glu Val Gly Pro Gly  
 370 375 380

Pro Ile Pro Trp Phe Ile Val Ala Glu Leu Phe Ser Gln Gly Pro Arg  
 385 390 395 400

Pro Ala Ala Ile Ala Val Ala Gly Phe Ser Asn Trp Thr Ser Asn Phe  
 405 410 415

Ile Val Gly Met Cys Phe Gln Tyr Val Glu Gln Leu Cys Gly Pro Tyr  
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Val Phe Ile Ile Phe Thr Val Leu Leu Val Leu Phe Phe Ile Phe Thr  
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Tyr Phe Lys Val Pro Glu Thr Lys Gly Arg Thr Phe Asp Glu Ile Ala  
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gtc tcc tca tac cac tct aaa ccc tgc aat cct gcc cag cca gtt tgt 144  
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 35 40 45

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Pro Pro Cys Pro Asn Leu Val Ser Tyr Ser Tyr His Ala Thr Tyr	
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tcc cta tat cta ttc cct cat tgg att aaa aag cca aac cga aat ggc	288
Ser Leu Tyr Leu Phe Pro His Trp Ile Lys Lys Pro Asn Arg Asn Gly	
85 90 95	
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Gly Gly Tyr Tyr Ser Ala Ser Tyr Ser Asp Pro Cys Ser Leu Lys Cys	
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cca tac ctg ggg tgc caa tca tgg acc tgc ccc tat aca gga gcc gtc	384
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115 120 125	
tcc agc ccc tac tgg aag ttt cag caa gat gtc aat ttt act caa gaa	432
Ser Ser Pro Tyr Trp Lys Phe Gln Gln Asp Val Asn Phe Thr Gln Glu	
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Phe Ser Leu Leu Val Asp Ala Pro Gly Tyr Asp Pro Ile Trp Phe Leu	
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Asn Thr Glu Pro Ser Gln Leu Pro Pro Thr Ala Pro Pro Leu Leu Pro	
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cac tct aac cta gac cac atc ctc gag ccc tct ata cca tgg aaa tca	624
His Ser Asn Leu Asp His Ile Leu Glu Pro Ser Ile Pro Trp Lys Ser	
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Lys Leu Leu Thr Leu Val Gln Leu Thr Leu Gln Ser Thr Asn Tyr Thr	
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Val Ser Arg Leu Asn Ile Asn Leu His Phe Ser Lys Cys Gly Phe Pro	
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165 170 175	
Asn Thr Glu Pro Ser Gln Leu Pro Pro Thr Ala Pro Pro Leu Leu Pro	
180 185 190	
His Ser Asn Leu Asp His Ile Leu Glu Pro Ser Ile Pro Trp Lys Ser	
195 200 205	

Lys Leu Leu Thr Leu Val Gln Leu Thr Leu Gln Ser Thr Asn Tyr Thr  
210 215 220

Cys Ile Val Cys Ile Asp Arg Ala Ser Leu Ser Thr Trp His Val Leu  
225 230 235 240

Tyr Ser Pro Asn Val Ser Val Pro Ser Ser Ser Ser Thr Pro Leu Leu  
245 250 255

Tyr Pro Ser Leu Ala Leu Pro Ala Pro His Leu Thr Leu Pro Phe Asn  
 260 265 270

Trp Thr His Cys Phe Asp Pro Gln Ile Gln Ala Ile Val Ser Ser Pro  
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tcg ccc tcc tat aat gac cct tgc tcg cta caa tgc ccc tac tta ggc	336
Ser Pro Ser Tyr Asn Asp Pro Cys Ser Leu Gln Cys Pro Tyr Leu Gly	
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Cys Gln Ser Trp Thr Cys Pro Tyr Thr Gly Pro Val Ser Ser Pro Ser	
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Trp Lys Phe His Ser Asp Val Asn Phe Thr Gln Glu Val Ser Gln Val	
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Val Asp Ala Pro Gly Tyr Asp Pro Leu Trp Phe Ile Thr Ser Glu Pro	
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Thr Gln Pro Pro Thr Pro Pro Leu Val His Asp Ser Asp Leu	
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Glu His Val Leu Thr Pro Ser Thr Ser Trp Thr Lys Met Leu Lys	
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Val Asp Arg Ser Ser Leu Ser Ser Trp His Val Leu Tyr Thr Pro Asn	
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Ile Ser Ile Pro Gln Gln Thr Ser Ser Arg Thr Ile Leu Phe Pro Ser	
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Leu Ala Leu Pro Ala Pro Pro Phe Gln Pro Phe Pro Trp Thr His Cys	
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Tyr Gln Pro Arg Leu Gln Ala Ile Thr Thr Asp Asp Cys Asn Asn Ser	
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 Phe Pro His Trp Ile Lys Lys Pro Asn Arg Gln Gly Leu Gly Tyr Tyr  
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 Ser Pro Ser Tyr Asn Asp Pro Cys Ser Leu Gln Cys Pro Tyr Leu Gly  
 100 105 110  
 Cys Gln Ser Trp Thr Cys Pro Tyr Thr Gly Pro Val Ser Ser Pro Ser  
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 Trp Lys Phe His Ser Asp Val Asn Phe Thr Gln Glu Val Ser Gln Val  
 130 135 140  
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 Val Asp Ala Pro Gly Tyr Asp Pro Leu Trp Phe Ile Thr Ser Glu Pro  
 165 170 175  
 Thr Gln Pro Pro Pro Thr Pro Pro Leu Val His Asp Ser Asp Leu  
 180 185 190  
 Glu His Val Leu Thr Pro Ser Thr Ser Trp Thr Thr Lys Met Leu Lys  
 195 200 205  
 Phe Ile Gln Leu Thr Leu Gln Ser Thr Asn Tyr Ser Cys Met Val Cys  
 210 215 220  
 Val Asp Arg Ser Ser Leu Ser Ser Trp His Val Leu Tyr Thr Pro Asn  
 225 230 235 240  
 Ile Ser Ile Pro Gln Gln Thr Ser Ser Arg Thr Ile Leu Phe Pro Ser  
 245 250 255  
 Leu Ala Leu Pro Ala Pro Pro Phe Gln Pro Phe Pro Trp Thr His Cys  
 260 265 270  
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 Leu Ile Leu Gly Asp Tyr Ser Pro Ser Cys Cys Thr Leu Thr Ile Gly  
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 Val Ser Ser Tyr Leu Ser Lys Pro Cys Asn Pro Ala Gln Pro Val Cys  
 35 40 45  
  
 tca tgg acc ctc gac cta ctg gcc ctt tca gca gac caa gcc cta cag 192  
 Ser Trp Thr Leu Asp Leu Leu Ala Leu Ser Ala Asp Gln Ala Leu Gln  
 50 55 60  
  
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 Pro Pro Cys Pro Asn Leu Val Ser Tyr Ser Ser Tyr His Ala Thr Tyr  
 65 70 75 80  
  
 tcc cta tat cta ttc cct cat tgg att aaa aag cca aac cga aat ggc 288  
 Ser Leu Tyr Leu Phe Pro His Trp Ile Lys Lys Pro Asn Arg Asn Gly  
 85 90 95  
  
 gga ggc tat tat tcg gcc tct tat tca gac cca tgt tct tta aag tgc 336  
 Gly Gly Tyr Tyr Ser Ala Ser Tyr Ser Asp Pro Cys Ser Leu Lys Cys  
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 Pro Tyr Leu Gly Cys Gln Ser Trp Thr Cys Pro Tyr Thr Gly Val Val  
 115 120 125  
  
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 Phe Ser Leu Leu Ile Asp Ala Pro Gly Tyr Asp Pro Ile Trp Phe Leu  
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 Asn Thr Glu Pro Ser Gln Leu Pro Pro Thr Ala Pro Pro Leu Leu Pro  
 180 185 190

cac tct aac ctg gac cac atc ctc gag ccc tct ata cca tgg aaa tca His Ser Asn Leu Asp His Ile Leu Glu Pro Ser Ile Pro Trp Lys Ser 195 200 205	624
aaa ctt ctg act ctt gtc cag cta acc cta caa agc act aat tac act Lys Leu Leu Thr Leu Val Gln Leu Thr Leu Gln Ser Thr Asn Tyr Thr 210 215 220	672
tgc atc gtc tgt ata gac cgt gcc agc ctc tct act tgg cat gtc ctg Cys Ile Val Cys Ile Asp Arg Ala Ser Leu Ser Thr Trp His Val Leu 225 230 235 240	720
tac tct ccc aac gtc tct gtt ccg tcc tct tct acc ccc ctc ctt Tyr Ser Pro Asn Val Ser Val Pro Ser Ser Ser Thr Pro Leu Leu 245 250 255	768
tac ccg tcg tta gcg ctt cca gct ccc cac ctg acg cta cca ttt aac Tyr Pro Ser Leu Ala Leu Pro Ala Pro His Leu Thr Leu Pro Phe Asn 260 265 270	816
tgg acc cac tgc ttt gac ccc cag att caa gct ata gtc tcc tcc ccc Trp Thr His Cys Phe Asp Pro Gln Ile Gln Ala Ile Val Ser Ser Pro 275 280 285	864
tgt cat aac tcc ctc atc ctg ccc ccc ttt tcc ttg tca cct gtt ccc Cys His Asn Ser Leu Ile Leu Pro Pro Phe Ser Leu Ser Pro Val Pro 290 295 300	912
acc cta gga tcc cgc tcc cgc cga gcg gta ccg gtg gcg gtc tgg ctt Thr Leu Gly Ser Arg Ser Arg Arg Ala Val Pro Val Ala Val Trp Leu 305 310 315 320	960
gtc tcc gcc ctg gcc atg gga gcc gga att gct ggc ggg att acc ggc Val Ser Ala Leu Ala Met Gly Ala Gly Ile Ala Gly Gly Ile Thr Gly 325 330 335	1008
tcc atg tcc ctc gcc tca gga aag agc ctc cta cat gag gtg gac aaa Ser Met Ser Leu Ala Ser Gly Lys Ser Leu Leu His Glu Val Asp Lys 340 345 350	1056
gat att tcc caa tta act caa gca ata gtc aaa aac cac aaa aat cta Asp Ile Ser Gln Leu Thr Gln Ala Ile Val Lys Asn His Lys Asn Leu 355 360 365	1104
ctc aaa att gca cag tat gct gcc cag aac agg cga ggc ctt gat ctc Leu Lys Ile Ala Gln Tyr Ala Ala Gln Asn Arg Arg Gly Leu Asp Leu 370 375 380	1152
ctg ttc tgg gag caa gga gga tta tgc aaa gca tta caa gaa cag tgc Leu Phe Trp Glu Gln Gly Gly Leu Cys Lys Ala Leu Gln Glu Gln Cys 385 390 395 400	1200
tgt ttt cta aat att acc aat tcc cat gtc tca ata cta caa gaa aga Cys Phe Leu Asn Ile Thr Asn Ser His Val Ser Ile Leu Gln Glu Arg 405 410 415	1248

ccc ccc ctt gag aat cga gtc ctc act ggc tgg ggc ctt aac tgg gac	1296
Pro Pro Leu Glu Asn Arg Val Leu Thr Gly Trp Gly Leu Asn Trp Asp	
420 425 430	
ctt ggc ctc tca cag tgg gct cga gag gcc tta caa act ggg atc acc	1344
Leu Gly Leu Ser Gln Trp Ala Arg Glu Ala Leu Gln Thr Gly Ile Thr	
435 440 445	
ctt gtt gca cta ctc ctt ctc gtt atc ctt gca gga cca tgc atc ctc	1392
Leu Val Ala Leu Leu Leu Val Ile Leu Ala Gly Pro Cys Ile Leu	
450 455 460	
cgt cag ctg cga cac ctc ccc tcg cgc gtc aga tac ccc cat tat tct	1440
Arg Gln Leu Arg His Leu Pro Ser Arg Val Arg Tyr Pro His Tyr Ser	
465 470 475 480	
ctt ata aac cct gag tca tcc ctg taa	1467
Leu Ile Asn Pro Glu Ser Ser Leu	
485	

<210> 8	
<211> 488	
<212> PRT	
<213> Simian T-cell lymphotropic virus type 1	
<400> 8	
Met Gly Lys Phe Leu Ala Thr Leu Ile Leu Phe Phe Gln Phe Cys Pro	
1 5 10 15	
Leu Ile Leu Gly Asp Tyr Ser Pro Ser Cys Cys Thr Leu Thr Ile Gly	
20 25 30	
Val Ser Ser Tyr Leu Ser Lys Pro Cys Asn Pro Ala Gln Pro Val Cys	
35 40 45	
Ser Trp Thr Leu Asp Leu Leu Ala Leu Ser Ala Asp Gln Ala Leu Gln	
50 55 60	
Pro Pro Cys Pro Asn Leu Val Ser Tyr Ser Ser Tyr His Ala Thr Tyr	
65 70 75 80	
Ser Leu Tyr Leu Phe Pro His Trp Ile Lys Lys Pro Asn Arg Asn Gly	
85 90 95	
Gly Gly Tyr Tyr Ser Ala Ser Tyr Ser Asp Pro Cys Ser Leu Lys Cys	
100 105 110	
Pro Tyr Leu Gly Cys Gln Ser Trp Thr Cys Pro Tyr Thr Gly Val Val	
115 120 125	
Ser Ser Pro Tyr Trp Lys Phe Gln Gln Asp Val Asn Phe Thr Gln Glu	
130 135 140	
Val Ser His Leu Asn Ile Asn Leu His Phe Ser Lys Cys Gly Phe Pro	
145 150 155 160	

Phe Ser Leu Leu Ile Asp Ala Pro Gly Tyr Asp Pro Ile Trp Phe Leu  
 165 170 175  
 Asn Thr Glu Pro Ser Gln Leu Pro Pro Thr Ala Pro Pro Leu Leu Pro  
 180 185 190  
 His Ser Asn Leu Asp His Ile Leu Glu Pro Ser Ile Pro Trp Lys Ser  
 195 200 205  
 Lys Leu Leu Thr Leu Val Gln Leu Thr Leu Gln Ser Thr Asn Tyr Thr  
 210 215 220  
 Cys Ile Val Cys Ile Asp Arg Ala Ser Leu Ser Thr Trp His Val Leu  
 225 230 235 240  
 Tyr Ser Pro Asn Val Ser Val Pro Ser Ser Ser Thr Pro Leu Leu  
 245 250 255  
 Tyr Pro Ser Leu Ala Leu Pro Ala Pro His Leu Thr Leu Pro Phe Asn  
 260 265 270  
 Trp Thr His Cys Phe Asp Pro Gln Ile Gln Ala Ile Val Ser Ser Pro  
 275 280 285  
 Cys His Asn Ser Leu Ile Leu Pro Pro Phe Ser Leu Ser Pro Val Pro  
 290 295 300  
 Thr Leu Gly Ser Arg Ser Arg Arg Ala Val Pro Val Ala Val Trp Leu  
 305 310 315 320  
 Val Ser Ala Leu Ala Met Gly Ala Gly Ile Ala Gly Gly Ile Thr Gly  
 325 330 335  
 Ser Met Ser Leu Ala Ser Gly Lys Ser Leu Leu His Glu Val Asp Lys  
 340 345 350  
 Asp Ile Ser Gln Leu Thr Gln Ala Ile Val Lys Asn His Lys Asn Leu  
 355 360 365  
 Leu Lys Ile Ala Gln Tyr Ala Ala Gln Asn Arg Arg Gly Leu Asp Leu  
 370 375 380  
 Leu Phe Trp Glu Gln Gly Gly Leu Cys Lys Ala Leu Gln Glu Gln Cys  
 385 390 395 400  
 Cys Phe Leu Asn Ile Thr Asn Ser His Val Ser Ile Leu Gln Glu Arg  
 405 410 415  
 Pro Pro Leu Glu Asn Arg Val Leu Thr Gly Trp Gly Leu Asn Trp Asp  
 420 425 430  
 Leu Gly Leu Ser Gln Trp Ala Arg Glu Ala Leu Gln Thr Gly Ile Thr  
 435 440 445  
 Leu Val Ala Leu Leu Leu Val Ile Leu Ala Gly Pro Cys Ile Leu  
 450 455 460

Arg Gln Leu Arg His Leu Pro Ser Arg Val Arg Tyr Pro His Tyr Ser  
 465 470 475 480

Leu Ile Asn Pro Glu Ser Ser Leu  
 485

<210> 9  
 <211> 1461  
 <212> DNA  
 <213> Simian T-cell lymphotropic virus type 2

<220>  
 <221> CDS  
 <222> (1)...(1461)

<400> 9  
 atg ggt aag ata att gct ttc ctt tta ttc cat ctt aca tgt atc aca 48  
 Met Gly Lys Ile Ile Ala Phe Leu Leu Phe His Leu Thr Cys Ile Thr  
 1 5 10 15  
 atc act aaa cag agc cgg tgc acg ctt acg gta ggt gtc tcc tcg tat 96  
 Ile Thr Lys Gln Ser Arg Cys Thr Leu Thr Val Gly Val Ser Ser Tyr  
 20 25 30  
 cac tct agt ccc tgc agt ctt gcc caa cct atc tgc acc tgg gat ctc 144  
 His Ser Ser Pro Cys Ser Leu Ala Gln Pro Ile Cys Thr Trp Asp Leu  
 35 40 45  
 gac ctt cat tcc tta act aca gac caa cgt ctg tac cct cca tgc ccc 192  
 Asp Leu His Ser Leu Thr Thr Asp Gln Arg Leu Tyr Pro Pro Cys Pro  
 50 55 60  
 aat cta gtt tct tac tct aac ttc cac aag tcc tac tcc tta tat ttg 240  
 Asn Leu Val Ser Tyr Ser Asn Phe His Lys Ser Tyr Ser Leu Tyr Leu  
 65 70 75 80  
 ttc ccg cac tgg gta aaa aag cca aat aga caa ggc ctg gga tac tat 288  
 Phe Pro His Trp Val Lys Lys Pro Asn Arg Gln Gly Leu Gly Tyr Tyr  
 85 90 95  
 tct gca tcc tac agc gac ccc tgc tcg ctc cag tgc cct tat tta gga 336  
 Ser Ala Ser Tyr Ser Asp Pro Cys Ser Leu Gln Cys Pro Tyr Leu Gly  
 100 105 110  
 agc cag tct tgg aca tgc cct tac acc ggc ccc atc tcc agc ccg tct 384  
 Ser Gln Ser Trp Thr Cys Pro Tyr Thr Gly Pro Ile Ser Ser Pro Ser  
 115 120 125  
 tgg agg ttc cac cga gat gtt aac ttc acc caa gag gtc aac cat gta 432  
 Trp Arg Phe His Arg Asp Val Asn Phe Thr Gln Glu Val Asn His Val  
 130 135 140  
 acc ctc cgg cta cac ttc tcc cga tgt ggc tct tct atg acc ctc ctc 480  
 Thr Leu Arg Leu His Phe Ser Arg Cys Gly Ser Ser Met Thr Leu Leu  
 145 150 155 160

ata gac gcc cca ggc tac gac ccc ctg tgg ttc atc tct tcg gaa ccc Ile Asp Ala Pro Gly Tyr Asp Pro Leu Trp Phe Ile Ser Ser Glu Pro 165	170	175	528	
act cag ccc ccc ccc act tcc cca cca tta gtc cgc gac tct gac ctt Thr Gln Pro Pro Pro Thr Ser Pro Pro Leu Val Arg Asp Ser Asp Leu 180	185	190	576	
gaa cat atc tta acc ccc tcc tcc tcc tgg gct act agg atg cta acc Glu His Ile Leu Thr Pro Ser Ser Ser Trp Ala Thr Arg Met Leu Thr 195	200	205	624	
ctc atc caa cta act cta caa agt acc aat tat tct tgc atg gtt tgt Leu Ile Gln Leu Thr Leu Gln Ser Thr Asn Tyr Ser Cys Met Val Cys 210	215	220	672	
ata gac aga acc agc ttg tcg tcc tgg cac gta ctc tat acc cct aat Ile Asp Arg Thr Ser Leu Ser Ser Trp His Val Leu Tyr Thr Pro Asn 225	230	235	240	720
atc tct gcc tca cct ggg ggc gac tcc ttg cct ata ctt tat ccc tcc Ile Ser Ala Ser Pro Gly Gly Asp Ser Leu Pro Ile Leu Tyr Pro Ser 245	250	255	768	
ttg gcc cta ccg gcc ccc caa ccc cag ccg ttt tcc tgg tct cac tgt Leu Ala Leu Pro Ala Pro Gln Pro Gln Pro Phe Ser Trp Ser His Cys 260	265	270	816	
tac cag ccc cac cta cag gca gta act aca gcc aat tgc aac aat tcc Tyr Gln Pro His Leu Gln Ala Val Thr Thr Ala Asn Cys Asn Asn Ser 275	280	285	864	
att gtc ctg ccc cca ttc tct ctc acc ccg gtg cct tcc cct ggg aca Ile Val Leu Pro Pro Phe Ser Leu Thr Pro Val Pro Ser Pro Gly Thr 290	295	300	912	
aga agc cgc cggtt att cca gtg gct gta tgg ctc gtc tca gcc cta Arg Ser Arg Arg Ala Ile Pro Val Ala Val Trp Leu Val Ser Ala Leu 305	310	315	320	960
gcg gcc ggg act ggt att gca ggg gga ata acc gga tcc ctg tcc cta Ala Ala Gly Thr Gly Ile Ala Gly Gly Ile Thr Gly Ser Leu Ser Leu 325	330	335	1008	
gca tca agc cgc agc ctg ctt ttt gaa gtt gac aaa gat att tcc cac Ala Ser Ser Arg Ser Leu Leu Phe Glu Val Asp Lys Asp Ile Ser His 340	345	350	1056	
ctc aca caa gcc atc gtt aaa aac cat caa aac atc ctc cgc gta gca Leu Thr Gln Ala Ile Val Lys Asn His Gln Asn Ile Leu Arg Val Ala 355	360	365	1104	
caa tat gca gcc caa aat aga aga gga cta gac ctc ctg ttt tgg gaa Gln Tyr Ala Ala Gln Asn Arg Arg Gly Leu Asp Leu Leu Phe Trp Glu 370	375	380	1152	

caa gga ggc ctc tgc aaa gcc ata caa gag caa tgt tgc ttc ctt aac	1200
Gln Gly Gly Leu Cys Lys Ala Ile Gln Glu Gln Cys Cys Phe Leu Asn	
385 390 395 400	
atc agc aac acc cat gtg tcc gtc ctt cag gag cgc ccc ccc ctg gaa	1248
Ile Ser Asn Thr His Val Ser Val Leu Gln Glu Arg Pro Pro Leu Glu	
405 410 415	
aag aga gtc atc aca gga tgg ggt ctc aac tgg gac cta ggg cta tcc	1296
Lys Arg Val Ile Thr Gly Trp Gly Leu Asn Trp Asp Leu Gly Leu Ser	
420 425 430	
caa tgg gca cgg gaa gca ctc caa act ggt ata acc atc cta gcc ttg	1344
Gln Trp Ala Arg Glu Ala Leu Gln Thr Gly Ile Thr Ile Leu Ala Leu	
435 440 445	
ctc ctc ctt gtc ata ctg ttc ggt cct tgt atc ctt cgc caa ctc caa	1392
Leu Leu Leu Val Ile Leu Phe Gly Pro Cys Ile Leu Arg Gln Leu Gln	
450 455 460	
tca ctt ccc cac cgg cta cag aac agg cac aac caa tac tct ctt att	1440
Ser Leu Pro His Arg Leu Gln Asn Arg His Asn Gln Tyr Ser Leu Ile	
465 470 475 480	
aac cag gaa acc aca cta taa	1461
Asn Gln Glu Thr Thr Leu	
485	

<210> 10

<211> 486

<212> PRT

<213> Simian T-cell lymphotropic virus type 2

<400> 10

Met Gly Lys Ile Ile Ala Phe Leu Leu Phe His Leu Thr Cys Ile Thr	
1 5 10 15	

Ile Thr Lys Gln Ser Arg Cys Thr Leu Thr Val Gly Val Ser Ser Tyr	
20 25 30	

His Ser Ser Pro Cys Ser Leu Ala Gln Pro Ile Cys Thr Trp Asp Leu	
35 40 45	

Asp Leu His Ser Leu Thr Thr Asp Gln Arg Leu Tyr Pro Pro Cys Pro	
50 55 60	

Asn Leu Val Ser Tyr Ser Asn Phe His Lys Ser Tyr Ser Leu Tyr Leu	
65 70 75 80	

Phe Pro His Trp Val Lys Lys Pro Asn Arg Gln Gly Leu Gly Tyr Tyr	
85 90 95	

Ser Ala Ser Tyr Ser Asp Pro Cys Ser Leu Gln Cys Pro Tyr Leu Gly	
100 105 110	

Ser Gln Ser Trp Thr Cys Pro Tyr Thr Gly Pro Ile Ser Ser Pro Ser	
115 120 125	

Trp Arg Phe His Arg Asp Val Asn Phe Thr Gln Glu Val Asn His Val  
 130 135 140

Thr Leu Arg Leu His Phe Ser Arg Cys Gly Ser Ser Met Thr Leu Leu  
 145 150 155 160

Ile Asp Ala Pro Gly Tyr Asp Pro Leu Trp Phe Ile Ser Ser Glu Pro  
 165 170 175

Thr Gln Pro Pro Pro Thr Ser Pro Pro Leu Val Arg Asp Ser Asp Leu  
 180 185 190

Glu His Ile Leu Thr Pro Ser Ser Ser Trp Ala Thr Arg Met Leu Thr  
 195 200 205

Leu Ile Gln Leu Thr Leu Gln Ser Thr Asn Tyr Ser Cys Met Val Cys  
 210 215 220

Ile Asp Arg Thr Ser Leu Ser Ser Trp His Val Leu Tyr Thr Pro Asn  
 225 230 235 240

Ile Ser Ala Ser Pro Gly Gly Asp Ser Leu Pro Ile Leu Tyr Pro Ser  
 245 250 255

Leu Ala Leu Pro Ala Pro Gln Pro Gln Pro Phe Ser Trp Ser His Cys  
 260 265 270

Tyr Gln Pro His Leu Gln Ala Val Thr Thr Ala Asn Cys Asn Asn Ser  
 275 280 285

Ile Val Leu Pro Pro Phe Ser Leu Thr Pro Val Pro Ser Pro Gly Thr  
 290 295 300

Arg Ser Arg Arg Ala Ile Pro Val Ala Val Trp Leu Val Ser Ala Leu  
 305 310 315 320

Ala Ala Gly Thr Gly Ile Ala Gly Gly Ile Thr Gly Ser Leu Ser Leu  
 325 330 335

Ala Ser Ser Arg Ser Leu Leu Phe Glu Val Asp Lys Asp Ile Ser His  
 340 345 350

Leu Thr Gln Ala Ile Val Lys Asn His Gln Asn Ile Leu Arg Val Ala  
 355 360 365

Gln Tyr Ala Ala Gln Asn Arg Arg Gly Leu Asp Leu Leu Phe Trp Glu  
 370 375 380

Gln Gly Gly Leu Cys Lys Ala Ile Gln Glu Gln Cys Cys Phe Leu Asn  
 385 390 395 400

Ile Ser Asn Thr His Val Ser Val Leu Gln Glu Arg Pro Pro Leu Glu  
 405 410 415

Lys Arg Val Ile Thr Gly Trp Gly Leu Asn Trp Asp Leu Gly Leu Ser  
 420 425 430

Gln Trp Ala Arg Glu Ala Leu Gln Thr Gly Ile Thr Ile Leu Ala Leu  
 435 440 445

Leu Leu Leu Val Ile Leu Phe Gly Pro Cys Ile Leu Arg Gln Leu Gln  
 450 455 460

Ser Leu Pro His Arg Leu Gln Asn Arg His Asn Gln Tyr Ser Leu Ile  
 465 470 475 480

Asn Gln Glu Thr Thr Leu  
 485

<210> 11  
 <211> 930  
 <212> DNA  
 <213> Simian T-cell lymphotropic virus type 3

<220>  
 <221> CDS  
 <222> (1)...(930)

<400> 11

atg	ggg	aag	ttt	ggc	ctt	tat	tgt	ctt	gtt	cac	ctt	tac	ata	ctt	ctc		48
Met	Gly	Lys	Phe	Gly	Leu	Tyr	Cys	Leu	Val	His	Leu	Tyr	Ile	Leu	Leu		
1	5							10				15					

cct gcc tcc tct ggc aat ccc agt cggtg acc ctg ttc ata ggg gcc  
 Pro Ala Ser Ser Gly Asn Pro Ser Arg Cys Thr Leu Phe Ile Gly Ala  
 20 25 30 96

tct tcc tac cac tcc agc cct tgc ggg tcc agc ctc cca cggtg acc  
 Ser Ser Tyr His Ser Ser Pro Cys Gly Ser Ser Leu Pro Arg Cys Thr  
 35 40 45 144

tgg aat ctt gac cta ttc tcc ctc acg aaa gat caa agc cta agc ccc  
 Trp Asn Leu Asp Leu Phe Ser Leu Thr Lys Asp Gln Ser Leu Ser Pro  
 50 55 60 192

cca tgt cca gac tta att act tac tca caa tac cac aag ccc tac tcc  
 Pro Cys Pro Asp Leu Ile Thr Tyr Ser Gln Tyr His Lys Pro Tyr Ser  
 65 70 75 80 240

ctg tat gta ttc cct cat tgg ata act aaa cct aac cgc cggtg ggc tta  
 Leu Tyr Val Phe Pro His Trp Ile Thr Lys Pro Asn Arg Arg Gly Leu  
 85 90 95 288

ggt tac tat tcc gct tcc tac tca gac ccc tgg gtc ata cag tgc cct  
 Gly Tyr Tyr Ser Ala Ser Tyr Ser Asp Pro Cys Ala Ile Gln Cys Pro  
 100 105 110 336

tac ctg gga tgc cag tcg tgg aca tgc ccc tat acg ggc ccgttcc  
 Tyr Leu Gly Cys Gln Ser Trp Thr Cys Pro Tyr Thr Gly Pro Val Ser  
 115 120 125 384

agt ccg cat tgg aga tac acc tat gat ctt aac ttt acc cag gag gta  
 Ser Pro His Trp Arg Tyr Thr Tyr Asp Leu Asn Phe Thr Gln Glu Val  
 130 135 140 432

tca tcc gtc tcc tta cac ttg cat ttc tcc aaa tgc gga tcc tcg ttc	480
Ser Ser Val Ser Leu His Leu His Phe Ser Lys Cys Gly Ser Ser Phe	
145 150 155 160	
tcc ttt cta cta gac gca cca gga tat gac cca gtg tgg ttc ctc tcc	528
Ser Phe Leu Leu Asp Ala Pro Gly Tyr Asp Pro Val Trp Phe Leu Ser	
165 170 175	
tcc cag gcc aca cag gct cca ccc aca cct gcc cct ctc ata cgg gac	576
Ser Gln Ala Thr Gln Ala Pro Pro Thr Pro Ala Pro Leu Ile Arg Asp	
180 185 190	
tca gat ctc cag tac att cta gaa ccg ccc att ccg tgg agc tct aag	624
Ser Asp Leu Gln Tyr Ile Leu Glu Pro Pro Ile Pro Trp Ser Ser Lys	
195 200 205	
att ctt aac ctt atc ctc ctc acc cta aaa agc act aac tat tct tgc	672
Ile Leu Asn Leu Ile Leu Thr Leu Lys Ser Thr Asn Tyr Ser Cys	
210 215 220	
atg gtc tgt gtt gac cgc tcc agc cta tcc tca tgg cat gtc ctg tat	720
Met Val Cys Val Asp Arg Ser Ser Leu Ser Ser Trp His Val Leu Tyr	
225 230 235 240	
gga ccc act caa gtc ccc agt cca ccc gac ccc caa gcc cgg tct atc	768
Gly Pro Thr Gln Val Pro Ser Pro Pro Asp Pro Gln Ala Arg Ser Ile	
245 250 255	
ctg cga cct gcc tta gct att ccc gcc agt aat atc acc ccc ccg ttt	816
Leu Arg Pro Ala Leu Ala Ile Pro Ala Ser Asn Ile Thr Pro Pro Phe	
260 265 270	
cct tgg acc cat tgc tat cgc cct cct ccg caa gcc atc tcc tcg gag	864
Pro Trp Thr His Cys Tyr Arg Pro Pro Pro Gln Ala Ile Ser Ser Glu	
275 280 285	
aat tgt aac aac tct gta gtg ctg ccc ccc ttt tct ctg tct cca att	912
Asn Cys Asn Asn Ser Val Val Leu Pro Pro Phe Ser Leu Ser Pro Ile	
290 295 300	
cct aac gtc tcc aga ccc	930
Pro Asn Val Ser Arg Pro	
305 310	

<210> 12  
 <211> 310  
 <212> PRT  
 <213> Simian T-cell lymphotropic virus type 3

<400> 12  
 Met Gly Lys Phe Gly Leu Tyr Cys Leu Val His Leu Tyr Ile Leu Leu  
 1 5 10 15  
 Pro Ala Ser Ser Gly Asn Pro Ser Arg Cys Thr Leu Phe Ile Gly Ala  
 20 25 30

Ser Ser Tyr His Ser Ser Pro Cys Gly Ser Ser Leu Pro Arg Cys Thr  
 35 40 45

Trp Asn Leu Asp Leu Phe Ser Leu Thr Lys Asp Gln Ser Leu Ser Pro  
 50 55 60

Pro Cys Pro Asp Leu Ile Thr Tyr Ser Gln Tyr His Lys Pro Tyr Ser  
 65 70 75 80

Leu Tyr Val Phe Pro His Trp Ile Thr Lys Pro Asn Arg Arg Gly Leu  
 85 90 95

Gly Tyr Tyr Ser Ala Ser Tyr Ser Asp Pro Cys Ala Ile Gln Cys Pro  
 100 105 110

Tyr Leu Gly Cys Gln Ser Trp Thr Cys Pro Tyr Thr Gly Pro Val Ser  
 115 120 125

Ser Pro His Trp Arg Tyr Thr Tyr Asp Leu Asn Phe Thr Gln Glu Val  
 130 135 140

Ser Ser Val Ser Leu His Leu His Phe Ser Lys Cys Gly Ser Ser Phe  
 145 150 155 160

Ser Phe Leu Leu Asp Ala Pro Gly Tyr Asp Pro Val Trp Phe Leu Ser  
 165 170 175

Ser Gln Ala Thr Gln Ala Pro Pro Thr Pro Ala Pro Leu Ile Arg Asp  
 180 185 190

Ser Asp Leu Gln Tyr Ile Leu Glu Pro Pro Ile Pro Trp Ser Ser Lys  
 195 200 205

Ile Leu Asn Leu Ile Leu Leu Thr Leu Lys Ser Thr Asn Tyr Ser Cys  
 210 215 220

Met Val Cys Val Asp Arg Ser Ser Leu Ser Ser Trp His Val Leu Tyr  
 225 230 235 240

Gly Pro Thr Gln Val Pro Ser Pro Pro Asp Pro Gln Ala Arg Ser Ile  
 245 250 255

Leu Arg Pro Ala Leu Ala Ile Pro Ala Ser Asn Ile Thr Pro Pro Phe  
 260 265 270

Pro Trp Thr His Cys Tyr Arg Pro Pro Pro Gln Ala Ile Ser Ser Glu  
 275 280 285

Asn Cys Asn Asn Ser Val Val Leu Pro Pro Phe Ser Leu Ser Pro Ile  
 290 295 300

Pro Asn Val Ser Arg Pro  
 305 310

<210> 13  
 <211> 153  
 <212> DNA  
 <213> Human T-cell lymphotropic virus type 1

<220>  
 <221> CDS  
 <222> (1)..(153)

<400> 13

att	aaa	aag	cca	aac	cca	aat	ggc	gga	ggc	tat	tat	tat	tta	gcc	tct	tat		48
Ile	Lys	Lys	Pro	Asn	Pro	Asn	Gly	Gly	Gly	Tyr	Tyr	Tyr	Leu	Ala	Ser	Tyr		
1							5			10						15		

tca gac cct tgt tcc tta aaa tgc cca tac ctg ggg tgc caa tca tgg  
 Ser Asp Pro Cys Ser Leu Lys Cys Pro Tyr Leu Gly Cys Gln Ser Trp  
 20 25 30

acc tgc ccc tat aca gga gcc gtc tcc agc ccc tac tgg aag ttt cag  
 Thr Cys Pro Tyr Thr Gly Ala Val Ser Ser Pro Tyr Trp Lys Phe Gln  
 35 40 45

caa gat gtc  
 Gln Asp Val  
 50

153

<210> 14  
 <211> 51  
 <212> PRT  
 <213> Human T-cell lymphotropic virus type 1

<400> 14

Ile	Lys	Lys	Pro	Asn	Pro	Asn	Gly	Gly	Gly	Tyr	Tyr	Tyr	Leu	Ala	Ser	Tyr		48
1							5			10						15		
Ser	Asp	Pro	Cys	Ser	Leu	Lys	Cys	Pro	Tyr	Leu	Gly	Cys	Gln	Ser	Trp			
							20			25					30			

Thr Cys Pro Tyr Thr Gly Ala Val Ser Ser Pro Tyr Trp Lys Phe Gln  
 35 40 45

Gln Asp Val  
 50

<210> 15  
 <211> 153  
 <212> DNA  
 <213> Human T-cell lymphotropic virus type 1

<220>  
 <221> CDS  
 <222> (1)..(153)

<400> 15  
 gtt aaa aag cca aac cga aat ggc gga ggc tat tat tta gcc tct tat 48  
 Val Lys Lys Pro Asn Arg Asn Gly Gly Tyr Tyr Leu Ala Ser Tyr  
 1 5 10 15  
  
 tca gac cct tgt tcc tta aaa tgc cca tac ctg ggg tgc caa tca tgg 96  
 Ser Asp Pro Cys Ser Leu Lys Cys Pro Tyr Leu Gly Cys Gln Ser Trp  
 20 25 30  
  
 acc tgc ccc tat aca gga gcc gtc tcc agc ccc tac tgg aag ttt cag 144  
 Thr Cys Pro Tyr Thr Gly Ala Val Ser Ser Pro Tyr Trp Lys Phe Gln  
 35 40 45  
  
 caa gat gtc 153  
 Gln Asp Val  
 50

<210> 16  
 <211> 51  
 <212> PRT  
 <213> Human T-cell lymphotropic virus type 1  
  
 <400> 16  
 Val Lys Lys Pro Asn Arg Asn Gly Gly Tyr Tyr Leu Ala Ser Tyr 48  
 1 5 10 15  
  
 Ser Asp Pro Cys Ser Leu Lys Cys Pro Tyr Leu Gly Cys Gln Ser Trp  
 20 25 30  
  
 Thr Cys Pro Tyr Thr Gly Ala Val Ser Ser Pro Tyr Trp Lys Phe Gln  
 35 40 45  
  
 Gln Asp Val  
 50

<210> 17  
 <211> 153  
 <212> DNA  
 <213> Human T-cell lymphotropic virus type 1  
  
 <220>  
 <221> CDS  
 <222> (1)..(153)  
  
 <400> 17  
 att aaa aag cca aac cga aat ggc gga ggc tat tat tta gcc tct tat 48  
 Ile Lys Lys Pro Asn Arg Asn Gly Gly Tyr Tyr Leu Ala Ser Tyr  
 1 5 10 15  
  
 tca gac cct tgt tcc tta aaa tgc cca tac ctg ggg tgc caa tca tgg 96  
 Ser Asp Pro Cys Ser Leu Lys Cys Pro Tyr Leu Gly Cys Gln Ser Trp  
 20 25 30

acc tgc ccc tat aca gga gcc gtc tcc agc ccc tac tgg aag ttt caa 144  
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 Gln Asp Val  
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<210> 18  
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<400> 18  
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Gln Asp Val  
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 <222> (1)..(153)

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tca gac cct tgt tcc tta aaa tgc cca tac ctg ggg tgc caa tca tgg 96  
 Ser Asp Pro Cys Ser Leu Lys Cys Pro Tyr Leu Gly Cys Gln Ser Trp  
 20 25 30

acc tgc ccc tat aca gga ccc gtc tcc agc ccc tac tgg aag ttt cag 144  
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<400> 21  
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 1 5 10 15

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 Ser Asp Pro Cys Ser Leu Lys Cys Pro Tyr Leu Gly Cys Gln Ser Trp  
 20 25 30

acc tgc ccc tat gca gga gcc gtc tcc agc ccc tac tgg aag ttt cag 144  
 Thr Cys Pro Tyr Ala Gly Ala Val Ser Ser Pro Tyr Trp Lys Phe Gln  
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caa gat gtc aat ttt acc cag gaa gta  
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<210> 22  
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<400> 22  
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Ser Asp Pro Cys Ser Leu Lys Cys Pro Tyr Leu Gly Cys Gln Ser Trp  
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Thr Cys Pro Tyr Ala Gly Ala Val Ser Ser Pro Tyr Trp Lys Phe Gln  
 35 40 45

Gln Asp Val Asn Phe Thr Gln Glu Val  
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<210> 23  
 <211> 153  
 <212> DNA  
 <213> Human T-cell lymphotropic virus type 2

<220>  
 <221> CDS  
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<400> 23  
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 Asn Asp Pro Cys Ser Leu Gln Cys Pro Tyr Leu Gly Ser Gln Ser Trp  
 20 25 30

aca tgc cca tac acg gcc ccc gtc tcc act cca tcc tgg aat ttt cat 144  
 Thr Cys Pro Tyr Thr Ala Pro Val Ser Thr Pro Ser Trp Asn Phe His  
 35 40 45

tca gat gta 153  
 Ser Asp Val  
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<400> 24  
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Asn Asp Pro Cys Ser Leu Gln Cys Pro Tyr Leu Gly Ser Gln Ser Trp  
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Thr Cys Pro Tyr Thr Ala Pro Val Ser Thr Pro Ser Trp Asn Phe His  
 35 40 45

Ser Asp Val  
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<210> 26  
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<400> 28  
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<210> 29  
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<212> PRT  
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<400> 29  
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<210> 30  
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<212> PRT  
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<400> 30  
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<400> 31  
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<210> 32  
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<400> 32  
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